



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/775,071	02/01/2001	Noam Sorek	P/3922-2	8015

2352 7590 06/10/2004

OSTROLENK FABER GERB & SOFFEN  
1180 AVENUE OF THE AMERICAS  
NEW YORK, NY 100368403

EXAMINER

SELBY, GEVELL V

ART UNIT	PAPER NUMBER
----------	--------------

2615

DATE MAILED: 06/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/775,071

Applicant(s)

SOREK ET AL.

Examiner

Gevell Selby

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2/1/01 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Chen, US 6,552,744.**

In regard to claim 1, Chen, US 6,552,744, discloses an apparatus for producing a panoramic image of a scene (see figure 1), comprising:

an image capture device (see figure 1, element 17), which is adapted to capture a plurality of sub-images of the scene at a respective plurality of orientations of the device (see column 2, lines 13-19); and

a direction indicator (see figure 1, element 21), which is coupled to the image capture device so as to determine the orientation of the device and to indicate the orientations at which the sub-images should be captured so that the plurality of sub-images can be stitched together to form the panoramic image of the scene (see column 4, line 66 to column 5, line 8 and column 6, lines 39-45).

In regard to claim 2, Chen, US 6,552,744, discloses the apparatus according to claim 1, wherein the image capture device comprises a memory wherein the plurality of sub-images are stored (see figure 1, element 25 or 26).

In regard to claim 3, Chen, US 6,552,744, discloses the apparatus according to claim 2, wherein the memory comprises a volatile memory (see figure 1, element 25 and column 3, lines 20-22).

In regard to claim 4, Chen, US 6,552,744, discloses the apparatus according to claim 2, wherein the memory comprises a non-volatile memory (see figure 1 element 26 and column 3, lines 20-22).

In regard to claim 5, Chen, US 6,552,744, discloses the apparatus according to claim 1, wherein the image capture device comprises a central processing unit (CPU; see figure 1, element 19) which stitches the plurality of sub-images together to form the panoramic image of the scene (see column 5, lines 31-40).

In regard to claim 6, Chen, US 6,552,744, discloses the apparatus according to claim 5, wherein the direction indicator comprises one or more signal generators which transmit the plurality of orientations to the CPU (see column 4, line 66 to column 5, line 8), and wherein the CPU stitches the plurality of sub-images together responsive to the received plurality of orientations (see column 5, lines 31-40).

In regard to claim 7, Chen, US 6,552,744, discloses the apparatus according to claim 5, wherein the direction indicator comprises one or more signal generators which transmit the plurality of orientations to the CPU (see column 4, line 66 to column 5, line 8), and wherein the CPU operates the image capture device so as to capture the plurality of sub-images responsive to the received plurality of orientations (see column 6, lines 15-28).

Art Unit: 2615

In regard to claim 8, Chen, US 6,552,744, discloses the apparatus according to claim 1. The Chen reference does not disclose the direction indicator comprising:

a first direction indicator section (electronic level) which is substantially fixedly coupled to the image capture device, so that the plurality of orientations of the device correspond to a respective plurality of orientations of the first section; and

a second direction indicator section (It is inherent there is a second indicator in order to indicate the direction of the fixed reference, the earth's gravitational and magnetic fields.) which is substantially invariant in orientation, so that comparison of the orientation of the first section with the orientation of the second section provides the orientation of the device (see column 3, lines 28-37).

In regard to claim 9, Chen, US 6,552,744, discloses the apparatus according to claim 8, wherein the second direction indicator section comprises an asymmetrical mass which maintains an orientation of the second direction indicator section substantially fixed relative to the Earth's gravitational field (see column 3, lines 28-37).

In regard to claim 10, Chen, US 6,552,744, discloses the apparatus according to claim 8, wherein the second direction indicator section comprises a permanent magnet which maintains an orientation of the second direction indicator section substantially fixed relative to the Earth's magnetic field (see column 3, lines 28-37: It is inherent that a permanent magnet is used to indicate the Earth's magnetic field.).

In regard to claim 11, Chen, US 6,552,744, discloses the apparatus according to claim 8, wherein the image capture device comprises a predetermined field-of-view, and

Art Unit: 2615

wherein the plurality of sub-images comprise a predetermined overlap between adjacent sub-images, and wherein the second direction indicator section comprises a respective plurality of markings, responsive to the field-of-view and the overlap, which indicate the plurality of orientations (see column 5, lines 31-40).

In regard to claims 12 and 13, Chen, US 6,552,744, discloses the apparatus according to claims ~~11 and 12~~, wherein the image capture device captures the scene by being rotated about a substantially vertical axis and/or the horizontal axis, and wherein the field-of-view of the device comprises a predetermined horizontal or vertical field-of-view, and wherein the plurality of markings comprise a respective plurality of longitudinal markings (see column 4, line 66 to column 5, line 8).

In regard to claims 14 and 15, Chen, US 6,552,744, discloses the apparatus according to claim 1, wherein the scene comprises a view formed by rotating about an axis by an angle substantially equal to or less than 360 degrees (see figure 2 and column 6, lines 39-45).

In regard to claim 16, Chen, US 6,552,744, discloses a method for producing a panoramic image of a scene, comprising:

coupling a direction indicator to an image capture device so as to determine orientation coordinates of the device (see column 2, lines 44-48); and

generating a plurality of sub-images of the scene at a respective plurality of orientation coordinates of the image capture device indicated by the direction indicator, so that the plurality of sub-images can be stitched together to form the panoramic image of the scene (see column 5, lines 31-40).

Art Unit: 2615

In regard to claim 17, Chen, US 6,552,744, discloses a method according to claim 16, wherein the image capture device comprises a memory, and wherein generating the plurality of sub-images comprises storing the plurality of sub-images in the memory (see figure 1, element 25 or 26).

In regard to claim 18, Chen, US 6,552,744, discloses a method according to claim 16, and comprising providing a central processing unit (CPU; see figure 1, element 19), wherein generating the plurality of sub-images comprises operating the CPU so as to stitch the plurality of sub-images together to form the panoramic image of the scene (see column 5, lines 31-40).

In regard to claim 19, Chen, US 6,552,744, discloses a method according to claim 18, and comprising providing one or more signal generators which transmit the plurality of orientations to the CPU, wherein stitching the plurality of sub-images together comprises stitching the plurality of sub-images together responsive to the transmitted plurality of orientations (see column 5, lines 31-40).

In regard to claim 20, Chen, US 6,552,744, discloses a method according to claim 18, and comprising providing one or more signal generators which transmit the plurality of orientations to the CPU (see column 4, line 66 to column 5, line 8), wherein generating the plurality of sub-images comprises generating the plurality of sub-images together responsive to the transmitted plurality of orientations (see column 6, lines 15-28).

In regard to claim 21, Chen, US 6,552,744, discloses a method according to claim 16, wherein coupling the direction indicator to the image capture device comprises

maintaining an orientation of a section of the direction indicator substantially fixed relative to the Earth's gravitational field (see column 3, lines 28-37).

In regard to claim 22, Chen, US 6,552,744, discloses a method according to claim 16, wherein coupling the direction indicator to the image capture device comprises maintaining an orientation of a section of the direction indicator substantially fixed relative to the Earth's magnetic field (see column 3, lines 28-37).

In regard to claim 23, Chen, US 6,552,744, discloses a method according to claim 16, wherein generating the plurality of sub-images comprises generating the sub-images responsive to a predetermined field-of-view of the image capture device and to a predetermined overlap between adjacent sub-images (see column 5, lines 31-40).

In regard to claims 24 and 25, Chen, US 6,552,744, discloses a method according to claims ~~23 and 24~~ respectively, wherein generating the plurality of sub-images comprises rotating the image capture device about a substantially vertical and/or horizontal axis, and wherein the field-of-view of the device comprises a predetermined horizontal or vertical field-of-view (see column 4, line 66 to column 5, line 8).

In regard to claims 26 and 27, Chen, US 6,552,744, discloses a method according to claim 16, wherein generating the plurality of sub-images comprises rotating the image capture device about an axis by an angle substantially less than or equal to 360 degrees (see figure 2 and column 6, lines 39-45).

In regard to claims 28 and 29, Chen, US 6,552,744, discloses a method for producing a panoramic image of a scene, comprising:



pointing an image capture device in an initial direction at the scene (see column 4, lines 55-59);

displaying an initial sub-image on a screen responsive to the initial direction (see figure 6: It is inherent that the display screen displays the image to be capture by the camera.);

capturing the initial sub-image of the scene (see column 4, lines 40-42);

translating the initial sub-image a predetermined distance on the screen to form a translated sub-image (see column 3, lines 44-52: When the camera is moved the image on the screen is translated to coincide with the camera movement.);

moving the image capture device to point in a subsequent direction so as to align a subsequent sub-image of the scene, displayed on the screen responsive to the subsequent direction, with the translated sub-image (see column 4, lines 59-66);

capturing the subsequent sub-image of the scene (see column 4, lines 59-66); and

stitching the initial sub-image and the subsequent sub-image together to form the panoramic image of the scene (see column 5, lines 31-40).

The same method is used is used to capture two or more discrete images in order to create a panoramic image (see column 5, lines 31-35).

In regard to claim 30, Chen, US 6,552,744, discloses an apparatus for producing a panoramic image of a scene, comprising:

an image capture device (see figure, element 17) which is pointed in an initial direction at the scene;

Art Unit: 2615

a screen (see figure 1, element 27) which displays an initial sub-image responsive to the initial direction; and

a central processing unit (CPU: see figure 1, element 19) which is adapted to capture the initial sub-image of the scene (see column 4, lines 40-42), and to translate the initial sub-image a predetermined distance on the screen to form a translated sub-image, wherein the image capture device is moved to point in a subsequent direction so as to align a subsequent sub-image of the scene, displayed on the screen responsive to the subsequent direction, with the translated sub-image (see column 3, lines 44-52), and wherein the CPU is adapted to capture the subsequent sub-image of the scene and to stitch the initial sub-image and the subsequent sub-image together to form the panoramic image of the scene (see column 5, lines 31-40).

### ***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 6,377,294 discloses a panoramic camera with a ~~an~~ direction sensor.

US 5,130,794 discloses a direction sensor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gevell Selby whose telephone number is 703-305-8623. The examiner can normally be reached on 8:00 A.M. - 5:30 PM (every other Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc-Yen Vu can be reached on 703-305-4946. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gvs



NGOC-YEN VU  
PRIMARY EXAMINER